

REMARKS

Claims 1-2, 4-7 and 8-16 are pending in this application. Claims 3 and 7 have been canceled without disclaimer or prejudice. Claims 1-2, 4-7 and 9 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections while Claims 10-16 have been newly added in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

The drawings have objected to as failing to comply with 37 C.F.R. §1.84(p)(5) because page 23 of the specification should have referred to --15000-- rather than "12000". Actually, rather than the drawings, the specification should have been objected to as containing a typographical error, since the drawings are correct. In response thereto, the specification has been amended to overcome the objection.

Claims 1-4 and 9 have been rejected under 35 U.S.C. §102(e) as clearly anticipated by Flores, U.S. Patent No. 6,073,109 for reasons stated on pages 1-3 of the Office action. Specifically, the Examiner asserts that Flores '109 discloses a workflow control method in a workflow system for carrying out a plurality of business processes (see column 110, lines 26-33) which comprises storing beforehand changes to be detected in business processes when a plurality of related business processes are executed simultaneously by computers and storing an occurrence of the change in one of the plurality of business processes (see column 11, lines 14-17, the transaction manager receives the plurality of business processes executed simultaneously and then from the queue stores them in a database). The rejection is respectfully traversed.

However, for purposes of expedition, claim 3 has been canceled without prejudice or disclaimer. Independent claim 1 has been amended to further clarify Applicants' disclosed invention over all cited prior art references, including Flores, U.S. Patent No. 6,073,109 and Tamaki, U.S. Patent No. 6,275,809. As amended, independent claim 1 is believed to be allowable over all cited prior art references, including Flores '109 and Tamaki '809 for reasons discussed hereinbelow.

The present invention is directed to a workflow management method and a workflow management system including a plurality of client computers and a method as shown in FIGs. 1, 11 and 15 in which some of related business processes in a business flow (business procedure) may be executed simultaneously by the plurality of client computers. The purpose of the present invention is to notify clients of the occurrence of an abnormal status change (discontinuance) detected in one of a plurality of interdependent business processes which are executed simultaneously so as to avoid execution unnecessary or useless business processes as described on page 3 of the specification and the summary of the invention.

Independent claim 1, as amended, defines a workflow control method in a workflow system connected to a plurality of client computers for carrying out business procedures each comprising a plurality of related business processes, and at least one of the business procedures being allowed to execute some of the business processes simultaneously comprising the steps of:

detecting occurrence of abnormal status change in one of a plurality of related business processes;

selecting at least one user who is in charge of a business interdependent to the business process in which said abnormal status change was detected; and

notifying a client computer corresponding to said selected user of the occurrence of abnormality in the related business process.

As defined by Applicants' independent claim 1, when one of a plurality of interdependent business processes is discontinued or canceled while some of the plurality of interdependent business processes are being executed simultaneously, useless business processes can advantageously be avoided or prevented by way of informing the relevant users of the occurrence of the discontinuance or interruption detected in the related business process, see lines 10-20, page 17 of the specification.

In contrast to Applicants' claim 1, Flores '109 discloses a computerized method and system as shown in FIG. 2 for managing business processes using a number of workflows linked together as shown in FIG. 1. The purpose of the Flores workflow system is to 1) notify the user that s/he has a step to begin or to complete the workflow; (2) provide the user with the proper tools to complete a task; (3) provide the user with the proper information to complete a task; (4) allow the user to see where a task fits in the overall process; (5) manage proper reminders, alerts, and follow-ups to keep the processing moving; (6) automate standard procedures; (7) integrate with the organization's existing business systems; (8) provide application program interfaces that allow developers to develop applications that are workflow-enabled. According to Flores '109, a follow-up manager is utilized to perform those functions as described, including, for example, notifying the user that he or she has a step to begin or to complete, and issuing remainders, alerts and follow-ups with respect to an overdue commitment (delayed task) in order to hasten the user to complete the delayed task.

However, there is **no** disclosure anywhere in Flores '109, including the cited column 13, lines 39-67 of Flores '109 which supports the §102 rejection of dependent claim 2, of any function of issuing a notification to inform a user that one of his/her tasks (business processes)

should be interrupted because its interdependent process has been already discontinued as defined in Applicants' independent claim 1. In fact, the cited column 13, lines 39-67 of Flores '109 only describes the follow-up manager as being used to determine if there is a delayed transaction. No disclosure of any detection of an abnormal status change (discontinuance) in the business process as alleged by the Examiner.

The rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must either be inherent or disclosed expressly and must be arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988); *Verdegall Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The corollary of that rule is that absence from the reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

In the present situation, Flores '109 fails to disclose and suggest Applicants' independent claim 1 and its dependent claims 2, 4 and 9. Therefore, Applicants respectfully request that the rejection of claims 1, 2, 4 and 9 be withdrawn.

Lastly, claims 5-8 have been rejected under 35 U.S.C. §103 as being unpatentable over Flores, U.S. Patent No. 6,073,109 as modified to incorporate selected features from Tamaki, U.S. Patent No. 6,275,809. In support of this rejection, the Examiner has expressly admitted that Flores '109, as a primary reference, does not disclose the use of a status watch for detecting a

change in a business process being executed. However, the Examiner cites column 5, lines 25-28 of Tamaki '809, as a secondary reference, for disclosing the missing feature from Flores '109, that is, the status watching for detecting discontinuous or delay in the business process in order to arrive at Applicants' claims 5-8.

This rejection is respectfully traversed, however. Applicants respectfully submit that features of the present invention are not taught or suggested by Flores '109 or Tamaki '809, whether taken individually or in combination with any other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

Independent claim 5, as amended, defines a workflow system connected to a plurality of client computers for executing business procedures each including a plurality of business processes, at least one of the business procedures being allowed to execute some of the business processes simultaneously, as comprising:

a **status watcher** for detecting a status change in a business process being executed, including an occurrence of an abnormal status change in the business process;

a **workflow engine** connected to the status watcher, for controlling the execution of each of the business procedures based on the status change detected by the status watcher and predetermined business procedure definitions; and

a **notifier** for notifying at least one of said client computers of the occurrence of the abnormal status change detected by said status watcher, the user of the client computer being in charge of a business process interdependent to a business process in which the abnormal status change was detected.

As defined by Applicants' independent claim 5, when one of a plurality of interdependent business processes is discontinued or canceled (abnormal status change) while some of the plurality of interdependent business processes are being executed simultaneously, it is possible

to prevent relevant users from executing useless business processes by way of a notifier for notifying the relevant users of the occurrence of the discontinuance or interruption detected in the related business process.

In contrast to Applicants' claims 5-8, Flores '109, as a primary reference, simply describes a workflow system which manages business processes made up of many workflows that are linked together as described previously. There is **no** disclosure of any status watcher for detecting a status change in a business process being executed, including an occurrence of an abnormal status change in the business process, nor any notifier used for notifying at least one of the client computers of the occurrence of the abnormal status change detected by the status watcher as correctly identified by the Examiner.

Tamaki '809, as a secondary reference, does **not** remedy the noted deficiencies of Flores '109. Tamaki '809 only discloses a business processing system employing a notice board business system database in which a status watcher is used to detect a status change in a business process, that is, for the purpose of making the task process (business process) change from the current task process to the next task process when the predetermined data input has been completed in the current task process. However, the status watcher of Tamaki '809 does **not** describe any detection of any occurrence of an abnormal status change as alleged by the Examiner.

The cited column 5, lines 24-28 of Tamaki '809 only describes a workflow system which allows the user in charge of the task process subsequent to the current task process to input the data in advance before the current task process is completed. The cited portion of Tamaki '809

does **not** describe the idea of making the subsequent user stop his input operation for his task process

The law under 35 U.S.C. §103 is well settled that "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *ACS Hospital System, Inc v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references in order to arrive at Applicants' claimed invention. Absent such a showing, the Examiner has improperly used Applicants' disclosure as an instruction book on how to reconstruct to the prior art to arrive at Applicants' claimed invention.

In the present situation, both Flores '109 and Tamaki '809 fail to disclose and suggest Applicants' claims 5-8. Therefore, Applicants respectfully request that the rejection of claims 5-8 be withdrawn.

Claims 10-16 have been newly added to alternatively define Applicants' disclosed invention over the prior art of record. These claims are believed to be allowable at least for the same reasons discussed against all the outstanding rejections of the instant application.

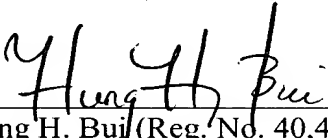
In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

No fees have been incurred. Please charge any shortage in the fees due in connection with the filing of this paper, to Deposit Account No. 01-2135, and please credit any excess fees to such deposit account.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Paragraph beginning at page 23, line 9, has been amended as follows:

In Fig. 15, the numeral 15000 [~~+2000~~] represents a division process flow definition, 1510 a resource selection rule, 15020 a resource selector A, 15-30 a sub-process executor, 15040 a workflow engine B, and 15050 a resource selector B. In Fig. 15, other components like or corresponding to those shown in Figs. 1 and 11 are designated by the same reference numerals.

IN THE CLAIMS:

Please **cancel** claims 3 and 7 without prejudice or disclaimer, **amend** claims 1, 2, 4, 5, 6, 8, and 9, and **add** claims 10-16, as follows:

1 **1. (Amended)** A workflow control method in a workflow system connected to a
2 plurality of client computers for carrying out business procedures each comprising a plurality of
3 related business processes, at least one of the business procedures being allowed to execute some
4 of the business processes simultaneously, said workflow control method comprising the steps of:
5 [~~storing beforehand~~] previously defining status changes to be detected in business
6 processes when a plurality of related business processes are executed simultaneously by said
7 client computers; [~~and~~]
8 detecting an occurrence of [~~the change~~] an abnormal status change in one of the plurality
9 of related business processes;

10 selecting at least one user who is in charge of a business process interdependent to the
11 business process in which the abnormal status change was detected; and
12 notifying a client computer corresponding to a selected user of the occurrence of
13 abnormality in the related business process.

1 **2. (Amended)** The workflow control method according to claim 1, wherein the
2 abnormal status change [~~changes~~] in the business processes to be detected includes a [~~include at~~
3 ~~least either~~] discontinuance [~~or delay~~] of the business processes.

1 **4. (Amended)** The workflow control method according to claim [3] 1, [~~further~~
2 ~~comprising the step of referring to a business process execution instruction provided by a~~
3 ~~workflow engine, and~~] wherein the selection of at least one user is carried by referring rules
4 defining the relation between [~~preset~~] predetermined business procedures and [~~the~~] related client
5 computers [~~;-and selecting the computers executing the related business processes~~].

1 **5. (Amended)** A workflow system connected to a plurality of client computers for
2 executing business procedures each including a plurality of business processes, [~~comprising a~~
3 ~~plurality of procedures, said workflow system;~~] at least one of the business procedures being
4 allowed to execute some of the business processes simultaneously, comprising:

5 a status watcher [~~which detects a~~] for detecting a status change in a business process being
6 executed, including an occurrence of an abnormal status change in the business process; [~~and~~]

7 a workflow engine [~~which refers to data given thereto by the status watcher and~~
8 ~~predetermined business definitions and controls~~] connected to the status watcher, for controlling
9 the execution of each of the business [~~processes~~] procedures based on the status change detected
10 by the status watcher and predetermined business procedure definitions; and

11 a notifier for notifying at least one of the client computers of the occurrence of the
12 abnormal status change detected by the status watcher, the user of the client computer being in
13 charge of a business process interdependent to a business process in which the abnormal status
14 change was detected.

1 **6. (Amended)** The workflow system according to claim 5, wherein the status watcher
2 detects [~~either~~] a discontinuance [~~or delay~~] of the business process as said abnormal status
3 change.

1 **8. (Amended)** The workflow system according to claim [7] 5, further comprising a
2 resource selector [~~which refers to a business process execution~~] for receiving an instruction
3 [provided by] and an identifier of the business process on which the abnormal status change was
4 detected from the workflow engine, and selecting the client computer to be notified of said
5 abnormal status change by referring predetermined rules previously defining the relation between
6 [the] predetermined business procedures and client computers, [and selects said related computer
7 for carrying out the next procedure] thereby to designate the client computer to said notifier.

1 **9. (Amended)** A storage medium capable of reading out stored information therefrom
2 by a computer which stores programs for realizing the workflow control method defined in claim
3 [~~3~~] 1 as said stored information.

1 **-10.** The workflow system according to claim 8, wherein the status watcher, the
2 workflow engine, the notifier and the resource selector are individual programs executed
3 concurrently to control the execution of each of the business procedures.

1 **11.** The workflow system according to claim 8, further comprising an exception
2 handler unit for creating attributes to handle the abnormal status change detected by the status
3 watcher; and a user retrieval unit for selecting the user of the client computer in charge of a
4 business process interdependent to the business process in which the abnormal status change was
5 detected by the status watcher.

1 **12.** A workflow management system for controlling an order of execution of
2 business procedures each including a plurality of business processes and at least one business
3 procedure being allowed to execute some of the business processes simultaneously, said
4 workflow management system comprising:

5 a client application to be executed by one or more client computers;

6 a server application to be executed by a server computer for communicating with the client
7 application;

8 an application database for storing data for the server application;

9 a status watcher for detecting a status change in a business process being executed in the
10 application database, including an occurrence of a discontinuance in a business process;

11 a workflow engine for controlling the execution of each of the business procedures based
12 on the status change detected by the status watcher and predetermined business procedure
13 definitions; and

14 a notifier for notifying the occurrence of a discontinuance in the business process to at least
15 one of the client computers.

1 13. The workflow management system according to claim 12, further comprising a
2 resource selector for receiving an instruction and an identifier of the business process on which
3 the discontinuance was detected from the workflow engine, and selecting the client computer to
4 be notified of the discontinuance by referring predetermined rules previously defining the relation
5 between predetermined business procedures and client computers.

1 14. The workflow management system according to claim 12, wherein the status
2 watcher, the workflow engine, the notifier and the resource selector are individual programs
3 executed concurrently to control the execution of each of the business procedures.

1 15. The workflow management system according to claim 12, further comprising
2 an exception handler unit for creating attributes to handle the discontinuance of the business
3 process detected by the status watcher; and a user retrieval unit for selecting the user of the client

4 computer in charge of a business process interdependent to the business process in which the
5 discontinuance was detected by the status watcher.

1 **16.** The workflow management system according to claim 15, wherein the user
2 selection is made by referring rules defining the relation between predetermined business
3 procedures and client computers.--